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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,419	08/31/2001	Keito Kondoh	62807-011	7823

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Washington, DC 20005-3096

EXAMINER

AGGARWAL, YOGESH K

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/943,419

Applicant(s)

KONDOH ET AL.

Examiner

Yogesh K. Aggarwal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-6 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/05/2005 has been entered.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1, 3-6 and 17 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (US Patent # 5,511,155) in view of Ishida (US Patent # 5,223,886) and in further view of Kondo et al. (US Patent # 5,093,716).

[Claim 1]

Yamaguchi teaches an image pick up means (figure 2, camera 20) for generating a plurality of screens ( $I_A$  to  $I_z$ ) having different exposure conditions (figures 5 and 6 show different exposure conditions), each of the generated screens having a different focal voltage (It would be inherent that each screen will have different focal voltage because they have different focal distances as

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shown in the figure 2 corresponding to minimum, maximum and medium focal distances), wherein the plurality of screens are adjacent temporally (Since the images are taken at the same time) and are synthesized to form a synthesized image (col. 3 lines 25-56).

Yamaguchi fails to disclose means for detecting the focal voltage of each of said plurality of screens and storing said detected focal voltage of each respective screen, said focal voltage containing high-frequency components included in each of said plurality of screens; and focal voltage selecting means for selectively outputting the focal voltage of one of the plurality of screens that is most suited to obtain a desired focus based on a predetermined selection criterion; wherein automatic focusing is carried out according to said focal voltage outputted from said focal voltage selecting means.

However Ishida et al. teaches a focus detection means (figure 1d, element 401) generating different amount of defocus amounts (DFa, DFb and DFc) and stores the defocusing amounts in focus condition memory means (402). Selection means (404) selects one of the defocus amounts and based upon one of the three selected defocus voltage values a lens drive control means 403 for driving the objective lens (col. 5 lines 31-51). Selection means 404 selects one of the three different focus adjustment values based upon whether object is moving, unstable or still (col. 5 line 62- col. 6 line 8) and is therefore read as a predetermined selection criterion.

Therefore taking the combined teachings of Yamaguchi and Ishida it would be obvious to one skilled in the art at the time of the invention to have been motivated to have a means for detecting the focal voltage of each of said plurality of screens and storing said detected focal voltage of each respective screen and focal voltage selecting means for selectively outputting the focal voltage of one of the plurality of screens that is most suited to obtain a desired focus based

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on a predetermined selection criterion; wherein automatic focusing is carried out according to said focal voltage outputted from said focal voltage selecting means in order to have a focus adjustment that is carried out automatically and more accurately.

Yamaguchi in view of Ishida fails to teach said focal voltage containing high-frequency components included in each of said plurality of screens. However Kondo et al. teaches that an auto focus detector 21 that is adapted to filter high frequency components from a video signal and selector circuits that adjusts focus based upon the filtered values (col. 6 lines 40-64).

Therefore taking the combined teachings of Yamaguchi, Ishida and Kondo it would be obvious to one skilled in the art at the time of the invention to have been motivated to have focal voltage containing high-frequency components included in each of said plurality of screens. The benefit of utilizing a high frequency component of a video signal from an image sensor device for evaluating a focus control in an automatic focusing apparatus of a camera is that no parallax exists and it is possible to exactly focus even if the depth of field is small or an object is located in the distance.

[Claim 3]

Ishida teaches when three defocus data in memory means 402 show the same defocus direction, the object is considered to be moving and therefore continuous mode is selected (col. 5 lines 62-68). Therefore a lens control means 403 that drives the objective lens based on one of the three different focus adjustments during continuous mode will continuously provide a focal voltage until a desired focus is reached.

[Claim 4]

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Kondo teaches that the luminance separator 32 operates by summing two digitized samples (read as magnitudes of luminance signal used to generate the focal voltages) produced by the A/D converter (col. 8 line 54-col. 9 line 5).

[Claim 5]

Kondo teaches that a discrete area is established by an auto-focus area setting circuit 24 which establishes the focus detection area in which intermediate and higher frequency components of the luminance signal are examined (col. 7 lines 2-14). Kondo also teaches that the luminance separator 32 converts the sampling frequency at which the digitized luminance components are produced (col. 9 lines 7-39).

[Claim 6]

Claim 6 recites what was discussed with respect to claims 4 and 5.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (US Patent # 5,511,155) in view of Ishida (US Patent # 5,223,886), Kondo et al. (US Patent # 5,093,716) and in further view of Hirasawa (US Patent # 5,946,504).

[Claim 17]

Yamaguchi teaches generating focal voltage of each of the plurality of screens obtained under different exposure conditions as recited in claims 1, but the combination of references fails to teach the focal voltage selecting means is configured to perform a step to compare the focal voltage of each of the plurality of different screens, and update the focal voltage that is most suited to obtain the desired focus based on a result of the comparing step; and the lens group drive means adjusts the focal point of said lens group based on the updated focal voltage that is most suited to obtain the desired focus.

However Hirasawa et al. teaches an automatic auto-focusing signal processing circuit 25 that has a microcomputer 16 stores a focus voltage in a memory, so that the newly input focus voltage is compared with a preceding focus voltage also stored in the memory (col. 8 lines 22-32, figure 1). Hirasawa further teaches that this updated voltage is used in making the determination of a driving speed of the focusing lens so as to bring the focusing lens to stop at the in-focus position.

Therefore taking the combined teachings of Yamaguchi, Ishida, Kondo and Hirasawa, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have used the focal voltage selecting means is configured to perform a step to compare the focal voltage of each of the plurality of different screens, and update the focal voltage that is most suited to obtain the desired focus based on a result of the comparing step; and the lens group drive means adjusts the focal point of said lens group based on the updated focal voltage that is most suited to obtain the desired focus in order to provide an automatic focus adjusting device capable, despite the type or characteristics of the lens, of accurately controlling automatic focus adjustment, thus providing a high versatility.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.


6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA

October 14, 2005

  
DAVID L. OMETZ  
SUPERVISORY PATENT  
EXAMINER